

REMARKS

This AMENDMENT Under 37 C.F.R. §1.111 is filed in reply to the outstanding Office Action of August 9, 2004, and is believed to be fully responsive thereto for reasons set forth below in greater detail.

Responsive to paragraph 1 of the Office Action, Claims 17, 18 and 20 have been amended in a suitable manner as suggested by the Examiner.

Reconsideration is respectfully requested of the rejection of the claims herein over Aminpur, et al. (U.S. Patent No. 6,482,726) and Loh (U.S. Patent No. 6,639,264), particularly in view of the clarifying and distinguishing amendments to independent Claim 16 requested herein and the following comments on the distinctions and advantages of the present invention over the prior art.

Independent Claim 19 has been amended to specify that the MOSFET device includes a silicon substrate having shallow trench isolation STI, implanted wells, a gate dielectric, a deposited and patterned gate stack, implanted source/drain extensions, and a SiN etch stop layer deposited over the gate stack, the implanted wells and the implanted source/drain extensions, and an HDP oxide layer deposited primarily on horizontal surfaces over the SiN layer and over the gate stack, the implanted wells and the implanted source/drain extensions and used as protection from a fluorine implant to form fluorine doped low K dielectric oxide gate sidewall spacers.

The added limitations to Claim 16 are supported by Claim 19, and the description of the fabrication of the MOSFET in Figures 1-4.

Essentially, Claim 19 has been amended to specify the structure of Figure 4 and to distinguish over the prior art.

As such, Aminpur, et al. is not believed to be that pertinent as Aminpur, et al. does not disclose or utilize a SiN layer or an HDT oxide layer. Moreover the process of Aminpur, et al. has no need for a SiN layer or an HDT oxide layer.

The closest prior art is believed to be Loh, U.S. Patent No. 6,639,264.

Loh has an FSG spacer and a SiN etch stop. However, Loh does not have the HDP oxide on top of the SiN etch stop. The HDP oxide is a directional deposition, with thicker deposition on horizontal surfaces (gates and diffusions) than vertical surfaces (sidewalls). (See application, paragraph [0017]). This allows the invention to implant F into the spacers, but block F from the gates and the diffusions. F can be detrimental in the diffusions, causing dislocations. F can also be detrimental in the gates, causing hot electron problems. (See Loh, Col. 2, line 27).

Loh's preferred embodiment is deposited FSG. Therefore, the issue of F diffusion into the gates and the diffusions is not as critical.

The F implant process of the present invention can introduce higher F doses than the FSG deposited process of Loh (and therefore provide a higher dielectric constant for the spacers). However, with the F implant process, the present invention minimizes the F dose in the gates and in the source and drain diffusions. The directional deposition provided by the HDP oxide functions to block F from the gates and from the source and drain diffusions, and only implant F into the sidewalls.

This application is now believed to be in condition for allowance, and a Notice of Allowance is respectfully requested. If the Examiner believes a telephone conference might

expedite prosecution of this case, it is respectfully requested that he call applicant's attorney at .
(516) 742-4343.

Respectfully submitted,



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